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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,816	11/16/2006	Kyung Jack Hong	M120.270.101 / 60324US012	1948
25281	7590	07/20/2009	EXAMINER	
DICKE, BILLIG & CZAJA FIFTH STREET TOWERS 100 SOUTH FIFTH STREET, SUITE 2250 MINNEAPOLIS, MN 55402			SYKES, ALTREV C	
			ART UNIT	PAPER NUMBER
			1794	
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			07/20/2009	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,816	<b>Applicant(s)</b> HONG, KYUNG JACK	
	<b>Examiner</b> ALTREV C. SYKES	<b>Art Unit</b> 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 3, 2009 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed June 3, 2009 have been fully considered but they are not persuasive.

Applicant argues Nordin does not disclose that the long loops 3 are 100% polyester. Because Nordin intends for the long loops 3 to have absorption capabilities, one of ordinary skill in the art at the time of the invention would not reasonably consider the polypropylene fibers as claimed due to the inherently little water absorbency provided by such fibers. Applicant did not argue the tertiary references.

Examiner is not persuaded. While Nordin does disclose the use of spun yarn of 100% polyester staple fibers, it is noted that this is only meant to be an example. It has been well settled that "The use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They

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are part of the literature of the art, relevant for all they contain.” *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) As such, examiner notes that Nordin further discloses all yarns in the cleaning cloth are suitably of synthetic material. (See Col 2, lines 44-45) Nordin further discloses an adjustment of the material used for the longer loops will optimize the properties of the cloth with regard to friction, brushing, and accumulation. (See Col 3, lines 43-46) Therefore, one of ordinary skill in the art would have been easily motivated to modify the type of synthetic yarn used in the longer loops to provide additional properties thereby increasing the fabric functionality. Examiner maintains the position as set forth in the last office action in view of newly found prior art for the added claim limitations.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
  1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 5-14 and 16-18, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nordin (US 5,804,274) in view of Meitner et al. (US 4,426,417).

Regarding claims 5 and 7, Nordin discloses a cleaning cloth for cleaning dirty surfaces and a mop on which said cleaning cloth is arranged. (See Col 1, lines 5-7) Nordin discloses the cleaning cloth is characterized by a base fabric having on one side longer loops of yarn with a normal fibre fineness and shorter loops of microfilament yarn having great dirt and liquid absorption ability and at the other side substantially microfilament yarn with great liquid absorption ability, preferably in the shape of short loops. (See Col 1, lines 48-54) In regards to the limitation that the stiff fibers and the super-absorbent region are alternately arranged, examiner notes the configuration of the fibers in Figure 1 of Nordin wherein ref. 3 represents the longer loop fibers and ref. 2 represents the short loop fibers in an alternating pattern of two long fibers followed by one short fiber followed by another set of two long fibers. It is noted that the short loop fibers would be equivalent to applicant's high absorbable fiber and the longer loop fibers would be equivalent to applicant's stiff fibers as further set forth in claims 8 and 9 below. Additionally, the limitation that the high-absorbable fibers (i.e. shorter loop microfibers) have a water retention rate greater than a water retention rate of said stiff fibers (i.e. longer loop staple fibres) would be readily provided by as evidenced by the choice of fibers taught by both applicant and Nordin. Examiner notes the instantly claimed water retention properties would readily have been provided by the Nordin product. Nordin

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discloses that the shorter loops consist of microfibers having a diameter of at most 1 Dtex and longer loops having a fineness of at least 1Dtex. (See Col 1, lines 59-64) Nordin further discloses all yarns in the cleaning cloth are suitably of synthetic material. (See Col 2, lines 44-45) Nordin further discloses an adjustment of the material used for the longer loops will optimize the properties of the cloth with regard to friction, brushing, and accumulation. (See Col 3, lines 43-46) Nordin discloses all of the claim limitations as set forth above but the reference does not specifically disclose the longer loops comprise polypropylene fibers.

Meitner et al. discloses improved wipers having not only excellent clean wiping properties for aqueous liquids as well as low and high viscosity oils but also good tactile and physical properties such as strength. (See Col 2, lines 8-12) The wipers comprise a matrix of microfibers and a mixture of staple fibers. (See Col 2, 13-14) The meltblown fiber component of the matrix may be formed from any thermoplastic composition capable of extrusion into microfibers. Examples include polyolefins such as polypropylene and polyethylene, polyesters, polyamides, as well as copolymers and blends of these and other thermoplastic polymers. Preferred among these for economy as well as improved wiping properties is polypropylene. The synthetic staple fiber component may also be selected from these thermoplastic materials with polyester being preferred. (See Col 4, lines 3-14) Examiner notes that the meltblown fiber component may be a blend of polyolefin fibers thereby providing proof of success when using more than one synthetic fiber in a cleaning cloth.

As Nordin and Meitner et al. are both directed to cleaning cloths (i.e. wipes), the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention motivated by expected success use the blend of polyolefin fibers as taught by Meitner et al. in place of the polyester loops of the synthetic fiber cloth as disclosed by Nordin motivated by the desire to provide improved wiping properties and economy of manufacture. (See Meitner Col 2, lines 30-33) One of ordinary skill in the art would have also been easily motivated by expected success to include a polypropylene yarn in the longer loops in order to optimize the properties of the cloth with regard to friction, brushing, and accumulation. (See Col 3, lines 43-46)

Regarding claim 6, Nordin discloses the ratio between shorter and longer loops on one side of the cloth should be such that 75%-25%, preferably 50% are made up by the shorter loops. (See Col 1, lines 65-67) As such it is noted that if 50% of the fibres on that side of the cloth containing both fibers is 50% short then the other 50% would be the longer loops.

Regarding claim 8, Nordin discloses the longer loops should consist of yarn of filaments or staple fibres having a normal fineness of at least 1 Dtex. (See Col 1, lines 62-64) The normal yarn further consists wholly or partly of synthetic fibres of polyester. (See Col 2, lines 4-6) Therefore, the synthetic fibres of polyester would be equivalent to applicant's stiff fibers.

Regarding claim 9, Nordin discloses the shorter loops consist of yarn of microfilaments or microfibers having a fineness of at most 1 Dtex. (See Col 1, lines 59-61) The microfilament yarns consist suitably of synthetic fibres of polyester and polyamide. (See Col 2, lines 1-3) Therefore, the microfibers of polyester and polyamide would be equivalent to applicant's high-absorbable polyester microfibers. Nordin further discloses all yarns present in the cleaning cloth are suitably of synthetic material. (See Col 2, lines 44-45)

Regarding claims 10-11, Nordin discloses it is suitable that the base fabric is a woven or knitted cloth consisting wholly or partly of microfibers or microfilaments. (See Col 1, lines 55-58) The fabric may be woven or knitted with loops on both sides. It can, however, instead of having woven loops, be provided with yarn loops attached by sewing whereby loops are formed. (See Col 2, lines 36-39)

Regarding claims 12-14, Nordin discloses for Figure 2, a mop to be used with the cleaning cloth consisting principally of a telescopic pipe or shaft which is hingedly connected with a disc of aluminum or similar material. Velcro tape "males" moulded in grooves are inserted on the underside of the disc. When the mop, the aluminum disc with the Velcro bands on the underside is simply pressed against the element of cleaning cloth which is to be used and the mounting is thereby complete. (See Col 4, lines 6-14) As such it is noted that the disc as disclosed by Nordin would necessitate the cloth being cut



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to a predetermined area in order to provide for a satisfactory mounting of the cloth to the disc necessary for the cleaning operation. Nordin also discloses if the cleaning element is to be removed it is possible to press one's foot against it and push off the aluminum disc. (See Col 4, lines 14-16) To use the mop in this way with Velcro tapes it is therefore necessary that the upper side of the cleaning element is constructed to serve as a female at the attachment with the Velcro tape. It is therefore suitable to sew together the cleaning cloth with a cloth which is intended to be the upper side which has the properties of being able to be attached to the Velcro bands. (Col 4, lines 17-23) As such, it is noted by examiner that the Velcro tape would be equivalent to a fastening means of a loop part of reclosable, hook and loop tape. Additionally, the matching up of the bands (i.e. sheets) of male and female grooves of the Velcro tapes attached to the disc and to the cleaning cloth would automatically provide for a margin of said fabric overlocking to a margin of said cloth.

Regarding claims 16-18, 20 and 22, it is noted by examiner that the methods of manufacturing a fabric comprising the steps as claimed by applicant would have been readily provided for by Nordin as evidenced by the product construction thus formed. As there is no showing on the record that the method as claimed would lead to anything other than the product as claimed by Nordin, the limitations are met because the steps are provided for in the outline of the product preferences.

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6. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nordin (US 5,804,274) in view of Meitner et al. (US 4,426,417) as applied to claim 16 above, and further in view of Truong et al. (US 2004/0074520).

Regarding claim 19, modified Nordin discloses all of the claim limitations as set forth above but the reference does not explicitly disclose the fibers includes circular-knitting the fibers. Nordin further discloses it is suitable that the base fabric is a woven or knitted cloth consisting wholly or partly of microfibers or microfilaments. (See Col 1, lines 55-58) Nordin discloses the fabric may be woven or knitted with loops on both sides. It can, however, instead of having woven loops, be provided with yarn loops attached by sewing whereby loops are formed. (See Col 2, lines 36-39) Nordin also discloses a dry or wrung-out cloth may then be used after cleaning. (See Col 3, lines 62-63)

Truong et al. discloses a cleaning implement comprising a cleaning support member, the cleaning support member having a substantially flat bottom surface and comprising fastening hooks on the bottom surface, and a reversible cleaning pad releasably attached to the bottom surface of cleaning support member. The reversible cleaning pad includes first and second sides, the first side of the cleaning pad comprises a first cleaning web material and the second side of the cleaning pad comprises a second cleaning web material, both web materials being directly attachable to fastening hooks. (See Abstract) Truong also discloses the microfiber web material is a knitted cloth web, either single knit or double knit, preferably prepared by the circular knitting process. (See [0054])

As modified Nordin and Truong et al. are both directed to cleaning cloths, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the circular knitting process as taught by Truong et al. in the place of the knitting process as disclosed by Nordin since the processes are held to be equivalent thereby yielding similar results of stitching. One would have been motivated to use the circular-knitting method since Truong discloses that knitting is preferred to weaving and provides an elastic cloth that is easier to wring out when wet. (See [0055])

7. Claims 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nordin (US 5,804,274) in view of Meitner et al. (US 4,426,417) as applied to claims 1 and 16 above, and further in view of Kresse (US 4,961,242).

Regarding claims 15 and 21, modified Nordin discloses all of the claim limitations as set forth above. Nordin discloses it is possible to arrange further absorption layers for water. This can suitably be done by inserting one or more layers of the cleaning cloth but even other absorption layers may be used. (See Col 4, lines 24-28) However, the reference does not specifically disclose a cloth wrapped about and stitched to respective margins of said fabric and said sheet. Additionally, the reference does not explicitly teach the fibers include tufting the fibers.

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Kresse et al. discloses mop head covering for a wet mop, having the lowest possible inherent weight, high absorptive liquid uptake and liquid-retaining capacity with a simultaneously high dirt and dirty liquid uptake capacity. (See Col 1, lines 51-54) Besides areas with high liquid uptake capacity (sponge or fleece cloth material strips), areas with especially high soil, dirt, or solid material uptake capacity are provided by fringes, loops or tufts. (See Col 2, lines 14-19) On its underside, i.e., on the cleaning-active side, the textile supporting structure has strips of sponge cloth material arranged in rows adjacent and parallel to one another. These strips are arranged juxtaposed to one another in the longitudinal direction of the supporting structure, and in sectors along lines on the supporting structure. The strips manifest a length that is customary in the case of wet mop coverings and are sewn, tufted, glued, or welded onto the supporting structure. (See Col 2, lines 51-68)

As modified Nordin and Kresse et al. are both directed to cleaning cloths, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a mop head covering as taught by Kresse et al. as one of the other absorption layers in the cloth as disclosed by Nordin. One would have been motivated by the desire to increase the liquid uptake and liquid-retaining capacity with a simultaneously high dirt uptake capacity thereby improving the cleaning process. (See Col 1, lines 51-54) Additionally, one would have been motivated to tuft the fibers of the Nordin cloth since Kresse et al. discloses that doing so to the fringes (or loops) of the

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mop cloth provides for fine hairs which retain the soil, dirt, and other small particles, especially well. (See Col 3, lines 2-3)

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTREV C. SYKES whose telephone number is (571)270-3162. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST, alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. Lawrence Tarazano/  
Supervisory Patent Examiner, Art Unit 1794

/ACS/  
Examiner  
7/15/09

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